Energy Efficiency Fact Sheet

Schools have great potential for reducing energy use, saving money and teaching students about energy efficiency. Schools are a great location for addressing energy issues because they usually have a high level of energy consumption due to their considerable heating/cooling requirements and high electricity usage for lighting and equipment. Investing in consumer education and user behavior can lead to considerable energy savings. Energy efficiency is the quickest, cheapest and cleanest way to extend our world's energy supplies. By adding a simple programmable thermostat, a school could save up to $100 per year on utility bills. For each degree lowered, there could be as much as a five percent savings on the energy bill, depending on the climate where you live.

When schools make energy efficiency part of everyday activities, they reduce energy demands. Reducing demand means that less natural gas, coal and other resources are needed to produce energy. Resulting in reduction of emissions and providing cleaner air for all of us—and cost savings for you.

Energy saving tips your school can do

Lighting

- Turn off lights when not in use—lighting accounts for nearly 50 percent of the electric bill in most schools. There's no reason to leave lights on if a room is empty. This also applies to the new energy-efficient fluorescent lights.
- Form a student energy patrol to ensure lights are out when rooms are empty (check classrooms, the cafeteria, the auditorium, etc.).
- Have students make signs and stickers to remind people to turn off the lights when they leave a room.
- Remove unneeded light fixtures near windows, especially in unused corners or along banks of windows and use the natural light.
- Have students conduct an experiment in classrooms by turning off selected banks of lights and surveying occupancy comfort at different lighting levels (often, occupants prefer working under natural light).
- Use energy efficient compact fluorescent light bulbs (CFLs) and light-emitting diode (LED) bulbs.
- Have students calculate the energy savings achieved by:
  - Replacing incandescent light bulbs with CFLs;
  - Changing incandescent lights in exit signs to light-emitting diode (LED) bulbs.
  - Have students use one of the Energy Star Energy Savings Calculator available at http://energystar.gov. Here they can enter data they have collected and find out the actual amount of energy saved.

Heating and Cooling

- Although it is costly to heat and cool school buildings, indoor temperatures must be comfortable. Consider setting thermostats at 68 degrees F° for heating and 78 degrees F° for cooling. Using fans in the summer can make people feel degrees cooler at much lower costs than air conditioning.
- When classrooms or other areas are uncomfortably cold or drafty, take the time to find the reason and then fix the problem. Custodians, teachers and students should work together to increase building comfort.
- Don't block the airflow around vents. Keep bookcases and other bulky items away from the heating and cooling units so they don't block and/or absorb the warm (or cool) air that should be coming into the room.

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- Install programmable thermostats in areas like the cafeteria to minimize operating hours of the heating and cooling systems during low occupancy periods.
- Clean furnace filters regularly as recommended by the manufacturer.
- Stop drafts! Look for simple draft beating strategies.
- Have students determine areas of energy loss by using "draft-meters" made from plastic wrap and pencils to study where drafts are coming in. Here's a list of things you'll need: a 12-inch ruler or stick, some scotch tape and a piece of plastic food wrap about half as long as the ruler or stick (tear off enough to look like a big rectangle, 2 short sides and 2 long).

Here's how to put your draft meter together:

Use the tape to stick one of the short sides of the plastic wrap to the ruler or stick. The other side of the plastic should hang free. Hold your draft meter by the end of the ruler or stick so that the plastic wrap hangs straight down. Walk near door facings, windows or dryer vent openings. If your plastic wrap moves it is because air is seeping in around these places. These are areas that need attention and need to be caulked or insulation added.

- Have students help reduce energy loss through innovative measures, such as making translucent window quilts to hang in classrooms and "insulation snakes" to put at the bottom of doors and windows.
- Work with facility staff to install permanent weather stripping, caulking and insulation.

Computers

If your school computers have power-management features, make sure controls are set so they will go into the "sleep" mode when not in active use. (Screen savers don't save energy—only the sleep mode does.) Students should turn off monitors that will not be used for the next class period. All computer equipment should be turned off at the end of the day and on weekends, unless your network technicians specifically instruct otherwise.

- Form a student energy patrol to make sure monitors are off when computers are not in use and to turn computers off at the end of the day.

Is your school purchasing new equipment? Save 50 percent on energy costs by using Energy Star computers, monitors, printers, fax machines, copiers and other equipment. Have students calculate potential savings from the use of Energy Star equipment and present the results to school administrators. If your school purchases the equipment, make sure the Energy Star features are enabled.

Appliances

If purchasing new appliances, remember that ENERGY STAR qualified appliances incorporate advanced technologies that use 10 to 50 percent less energy and water than standard models. Maintaining a school's current appliances will keep them running effectively and efficiently.

- Maintain appliances and replace old appliances. Clean refrigerator coils regularly.
- Have students use a watt meter to study how much electricity a device uses. This is useful in determining which appliances are outdated and less efficient.
- Have students conduct a survey of the number of appliances in each classroom and encourage teachers to take away unneeded appliances.

Get the entire school involved. **Energy** savings add up when the entire school joins together in conservation efforts. Schools with effective conservation programs have reported reductions of as much as 25 percent in utility bills. Publicize energy costs and savings. When people know how much it costs to power their school, they can see why it's worth some extra effort to avoid waste.

For more information about energy efficiency, refer to the Green Steps Guide Book in the Green Steps Tool Kit